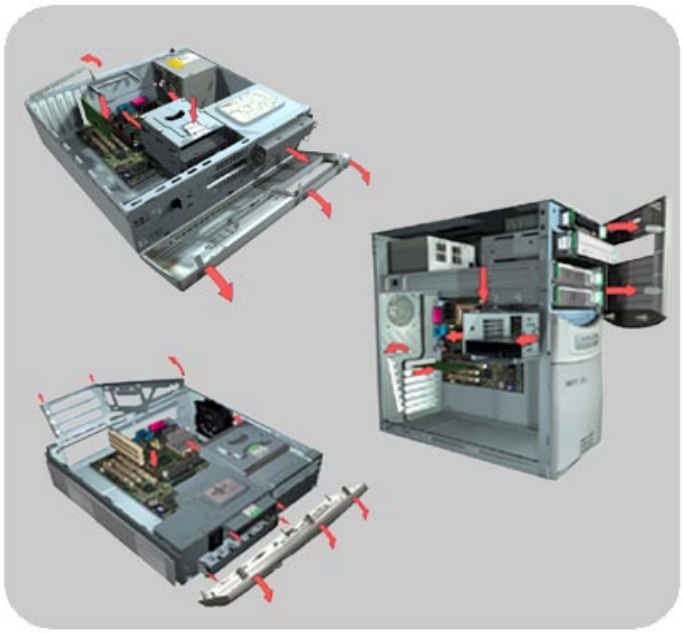

hp vectra vl410 pc

upgrade guide

invent

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Business Desktop Division
38053 Grenoble Cedex 9
France

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Important Ergonomic Information

Improper and prolonged use of keyboards and input devices are among those tasks associated with repetitive strain injury (RSI) to soft tissues in the hands and arms. If you do experience discomfort or pains while using any computing equipment, discontinue use immediately and consult your physician as soon as possible.

Your comfort and safety are our primary concern. Consequently, we strongly recommend that you read HP's ergonomic information before using your PC. For detailed information, refer to HP's online version of "Working in Comfort" which is preloaded on your PC's hard disk or visit HP's Working in Comfort Web site at: www.hp.com/ergo/.

HP information roadmap

Upgrade guide

The *Upgrade Guide* (this manual) will help you:

- Upgrade and replace components in your PC, including the hard drive, memory, battery, power supply, and 5.25-inch drives. More information is available on the web at: **www.hp.com/go/vectrasupport**.

Troubleshooting guide

The *Troubleshooting Guide*, available in PDF format on the HP Vectra support web site (**www.hp.com/go/vectrasupport**) will help you:

- Troubleshoot your PC
- Find out where to get more information.

Your PC's Quick Start Card (provided with some models only)

The *Quick Start* card provided with your PC will help you:

- Set up and begin using your PC for the first time
- Upgrade and replace components in your PC, including the hard drive, processor memory, add-on cards and 5.25-inch drives. More information is available on the web at: **www.hp.com/go/vectrasupport**.
- Find out where to get more information.

Your PC's Quick user's guide

The *Quick User's Guide* provided with your PC includes basic information that will help you:

- Troubleshoot your PC
- Upgrade and replace components in your PC
- Find out where to get more information.

Your pc's online information

For information on:

- Fixing problems with your PC.

Information on the hp support web site

Refer to the HP Vectra support web site (**www.hp.com/go/vectrasupport**) for a wide range of information, including:

- Downloadable documentation
- Service and support options
- The latest BIOS, drivers and utilities
- Answers to Frequently Asked Questions.

System recovery cd-roms

Used for a full system recovery or alternative OS installation. Includes instructions on how to recover your preloaded software including operating system, drivers and utilities.

Important Safety Information

For your safety, never remove the PC's cover without first removing the power cord and any connection to a telecommunications network. Always replace the cover before switching the PC on again.

For your safety, always connect equipment to a grounded electrical wall outlet. Always use a power cord with a properly grounded plug, such as the one provided with the equipment, or one in compliance with your national safety standards. The equipment can be disconnected from the power by removing the power cord from the power outlet. This means the equipment must be located close to an easily accessible electrical outlet.

To avoid electrical shock, do not open the power supply. There are no user-serviceable parts inside.

There is a danger of explosion if the battery is incorrectly installed. For your safety, never attempt to recharge, disassemble or burn an old battery. Only replace the battery with the same or equivalent type, as recommended by the manufacturer. The battery in this PC is a lithium battery that does not contain any heavy metals. Nevertheless, in order to protect the environment, do not dispose of batteries in household waste. Please return used batteries either to the shop from which you bought them, or to the dealer from whom you purchased your PC, or to HP, so that they can either be recycled or disposed of in the correct way. Returned used batteries will be accepted free of charge.

Do not attempt to connect this product to the phone line during a lightning storm. Never install telephone jacks in wet locations unless the telephone line has been disconnected at the network interface. Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface. Use caution when installing or modifying telephone lines. Avoid using a telephone (other than a cordless type) during a lightning storm. There may be a risk from lightning. Do not use the telephone to report a gas leak in the vicinity of the leak. Never touch or remove the communications board without first removing the connection to the telephone network. Use minimum Nº 26 AWG wire for telephone cable.

Choosing a Comfortable Workspace

Choose a workspace for your computer near a grounded electrical wall socket. If your monitor has a tilt-swivel base, attach it to the monitor as described in the monitor manual. Position the monitor on your desk. Position the computer to allow proper ventilation and access to the cables.

WARNING **If you are in doubt that you can lift the equipment safely, do not try to move it without help.**

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Upgrading and replacing hardware

This manual describes how to:

- upgrade hardware components
- replace faulty components.

If you want to find out about available accessories for your PC, refer to the HP accessories Web site at: **www.hp.com/go/pcaccessories**.

Important - before you start

Read this section before installing any components in your PC.

WARNING **For your safety, never remove the PC's cover without first removing the power cord from the power outlet, and any connection to a telecommunications network. Always replace the cover before switching the PC on again.**

Caution Static electricity can damage electronic components. Turn all equipment OFF. Don't let your clothes touch the accessory. To equalize the static electricity, rest the accessory bag on top of the PC while you are removing the accessory from the bag. Handle the accessory as little as possible and with care.

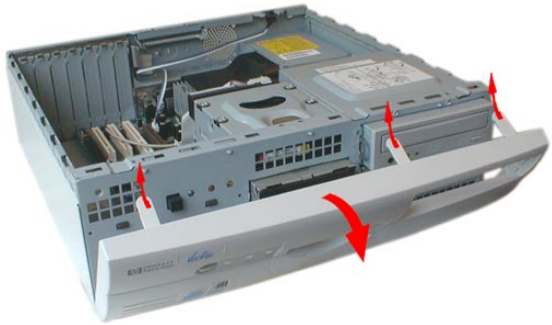
Removing the pc's cover

Desktop models

WARNING **For your safety, disconnect the power cord and all external cables.**

1 Switch off the monitor and PC, disconnect all power cords and any telecommunication cables.
2 If necessary, unlock the cover (with the key) at the rear of the PC.
3 Open the latch and remove the cover.

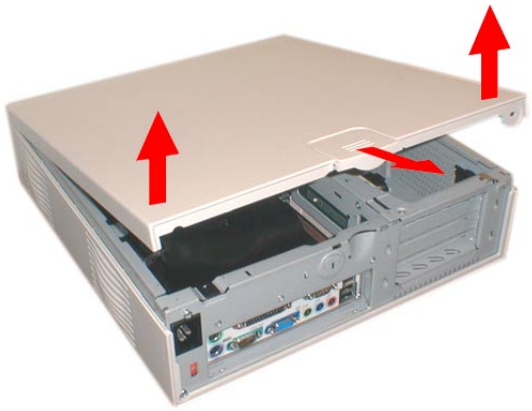
4 Remove the front panel (if you are adding a front-access device).



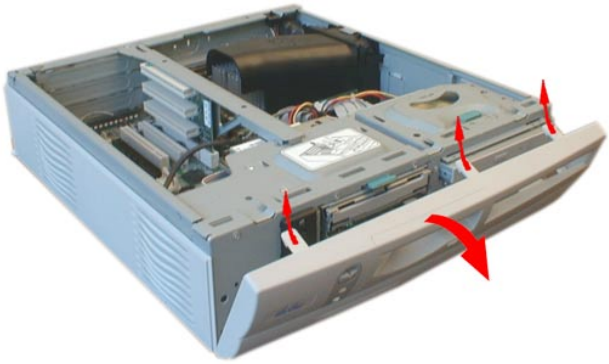
Small form factor models

WARNING **For your safety, disconnect the power cord and all external cables.**

1. Switch off the monitor and PC, disconnect all power cords and any telecommunication cables.
2. If necessary, unlock the cover (with the key) at the rear of the PC.
3. Slide back the latch and remove the cover.



4. Remove the front panel (if you are adding a front-access device or replacing the hard disk drive).

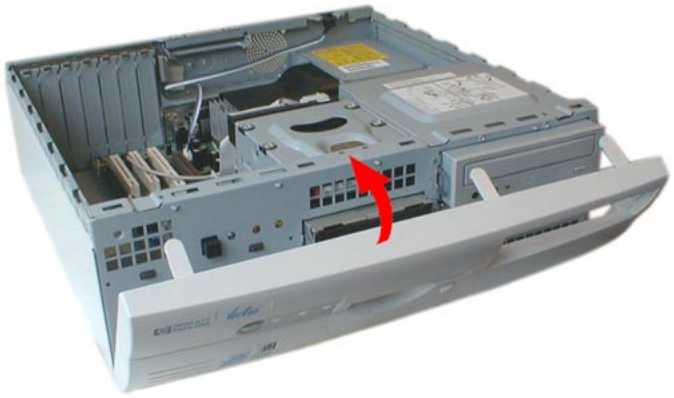


Replacing the pc's cover

Desktop models

1 Ensure that all internal cables are properly connected and safely routed (not trapped or snagging on anything.)

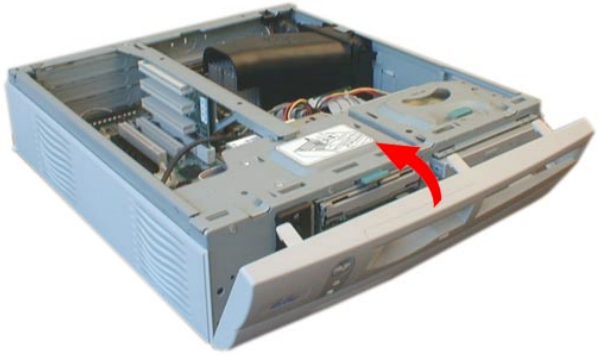
2 Replace the front panel.



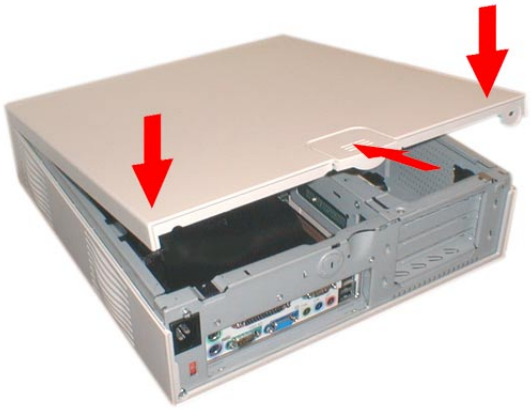
3 Replace the cover, making sure you align the hinges properly.

Small form factor models

1. Ensure that all internal cables are properly connected and safely routed (not trapped or snagging on anything.)
2. Replace the front panel.

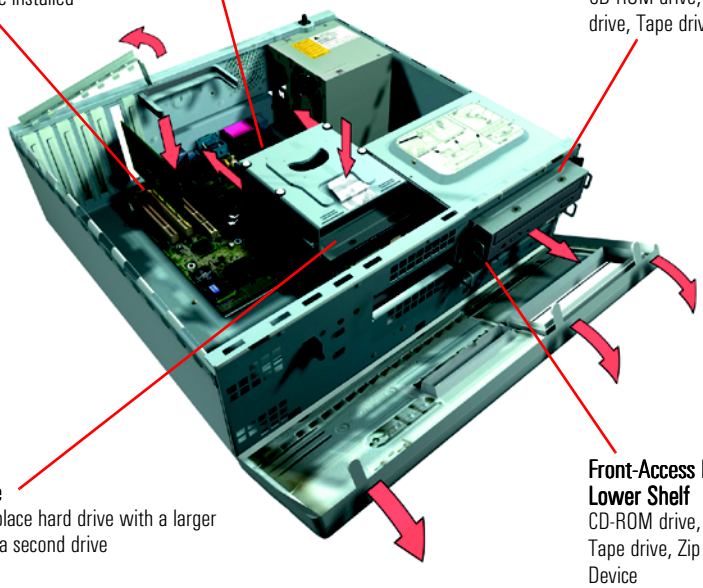


3. Replace the cover, making sure you align the front hinges properly and slide the latch closed.



Inside the computer

Desktop models



Main Memory Modules:
(133MHz SDRAM)
64 MB kit
128 MB kit
256 MB kit
512 MB kit (you must install two 256MB modules)

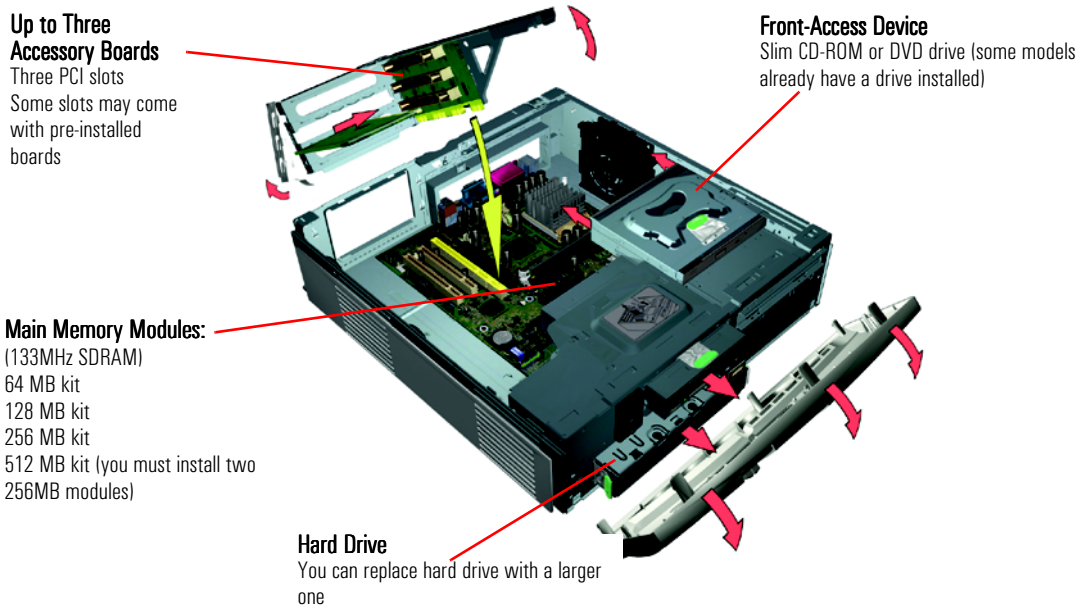
Up to Four Accessory Boards
Three PCI and one AGP
Some slots may come with pre-installed boards

Front-Access Device Upper Shelf
(Some models already have a CD-ROM, DVD or CD-RW drive installed in this shelf).
CD-ROM drive, DVD drive, CD-RW drive, Tape drive, or Zip drive

Hard Drive
You can replace hard drive with a larger one or add a second drive

Front-Access Device Lower Shelf
CD-ROM drive, CD-RW drive, DVD drive, Tape drive, Zip drive or Power Protection Device

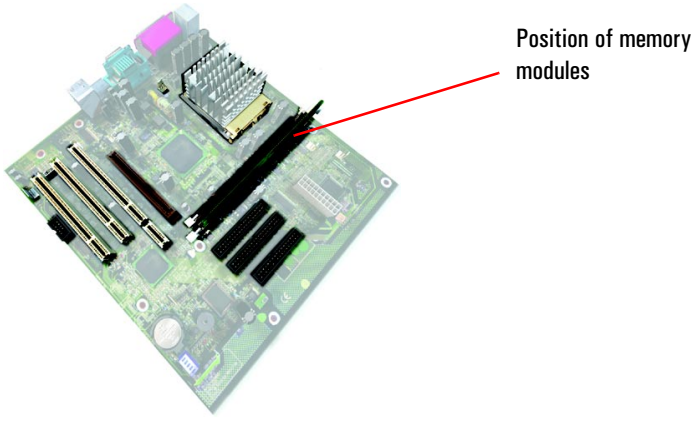
Small form factor models



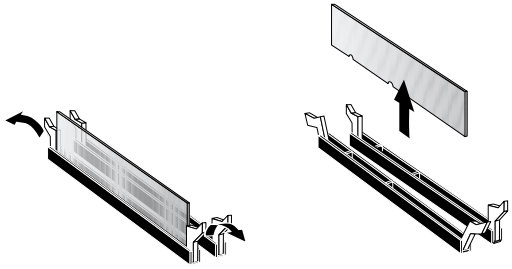
Upgrading or replacing main memory

Note Use only HP memory modules provided for your PC model. The use of other memory modules is not supported. For information about supported HP accessories, connect to `www.hp.com/go/pcaccessories`. You can install up to 512MB.

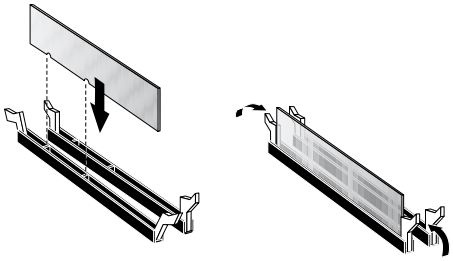
1 Switch off the PC and remove the computer's cover. Refer to page 8.



2 Open the two tabs and remove the old memory module (if required).



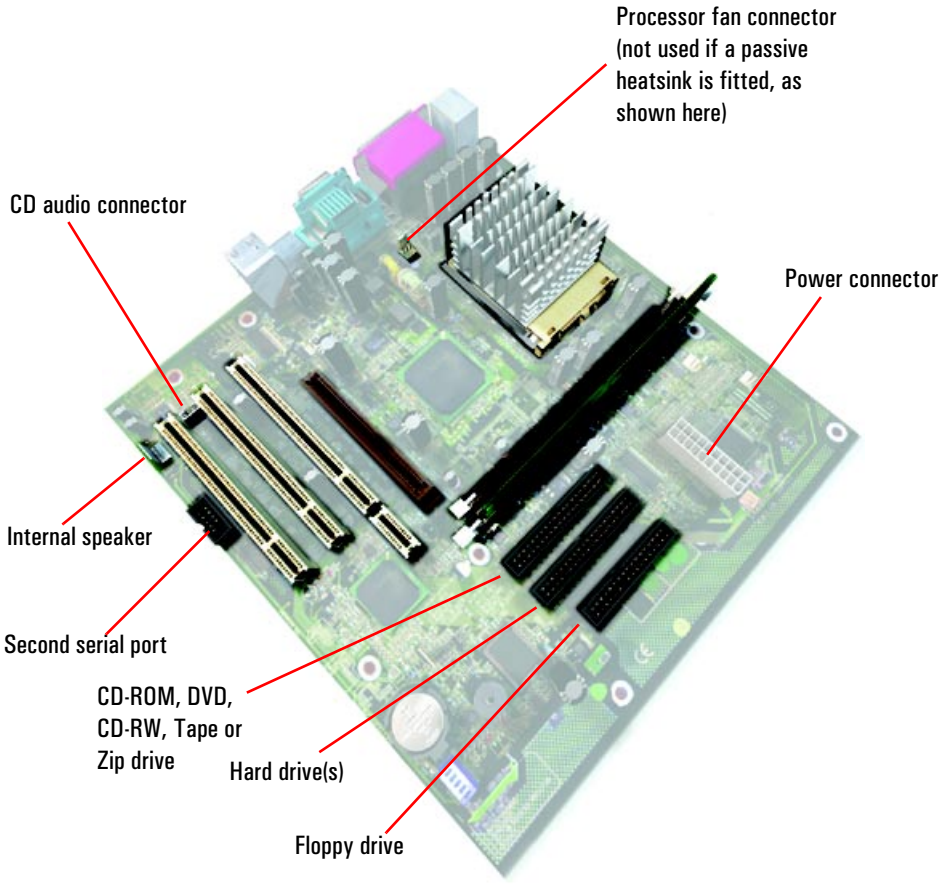
3 Align the notches on the bottom of the module with the corresponding marks on the socket and push it firmly into place. The clips close automatically.



4 Replace the cover. Refer to page 10.

Cables and connectors in your pc

Internal devices such as the power supply, processor, hard drives, DVD and CD-ROM drives require the connection of data and power cables from device to system board. Cables are connected to the system board and internal devices as shown below. You must also connect the power supply connector, status panel connector and CD audio connector (if a CD-ROM is fitted) to the system board.

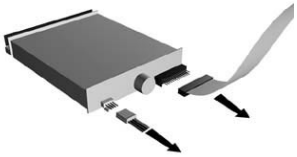


Replacing the hard drive

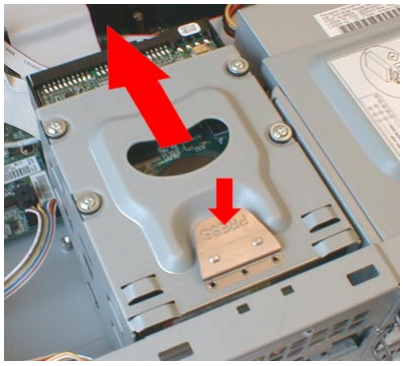
WARNING **For your safety, disconnect the power cord and all external cables.**

Desktop models

1. Switch off the PC and remove the PC's cover. Refer to page 8.
2. Remove the data and power cables from both the floppy and the hard drive.



3. Press the retaining clip on top of the drive tray and slide it backwards to remove it.



4. Remove the screws holding the old drive in the tray, then remove the old drive.
5. Align the new drive in the tray (with the correct orientation) and tighten the screws.

Caution Take care when handling the hard drive. A small drop can damage it.

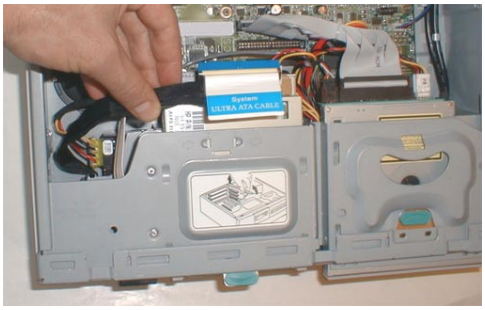
6. Attach the data and power connectors.
7. Replace the PC's cover. Refer to page 10.
8. Verify the new configuration by checking the HP Summary screen. To access the HP Summary Screen, press **Esc** when the HP logo appears during startup.

Note Ensure that you have installed all the required operating system and HP drivers on the newly installed drive. To reinstall operating system and HP drivers, use the Recovery CD-ROMs provided with the PC. In addition, you can find the most up-to-date versions of HP drivers on HP's Web site at: `www.hp.com/go/support`.

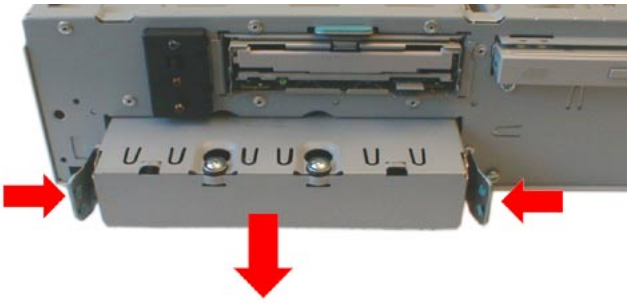
Small form factor models

1 Switch off the PC and remove the PC's cover. Refer to page 8.

2 Remove the drive's IDE data cable from the system board.



3 Press the two tabs inward and carefully slide out the hard disk unit.



4 Remove the drive's power connector.

5 Loosen the four screws and remove the old hard drive (note the orientation of the drive).

6 Remove the IDE cable from the old drive and connect it to the new drive.

7 Align the new drive in the tray (with the correct orientation) and tighten the screws.

8 Attach the drive's power connector.

9 Slide the drive unit back into the PC, ensuring the cables are correctly routed.

10 Attach the IDE cable to the system board.

11 Replace the PC's cover. Refer to page 10.

12 Verify the new configuration by checking the HP Summary screen. To access the HP Summary Screen, press **F8** when the HP logo appears during startup, then select the Summary option by pressing **Esc**.

Note Ensure that you have installed all the required operating system and HP drivers on the newly installed drive. To reinstall operating system and HP drivers, use the Recovery CD-ROMs provided with the PC. In addition, you can find the most up-to-date versions of HP drivers on HP's Web site at: `www.hp.com/go/support`.

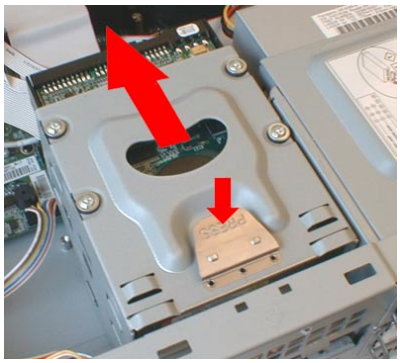
Adding a second hard drive

Note that you can only add a second hard drive to Desktop models.

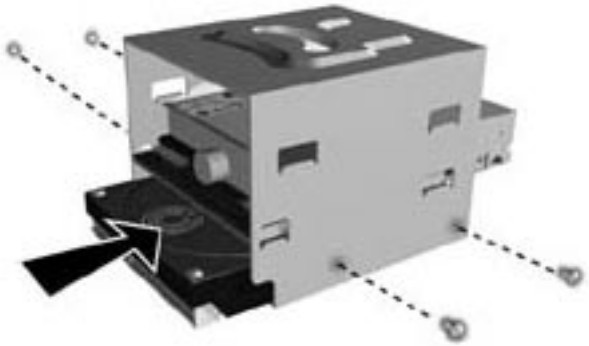
WARNING **For your safety, disconnect the power cord and all external cables.**

You can replace the hard drive with a larger one. To do this:

1. Switch off the PC and remove the PC's cover. Refer to page 8.
2. Remove data and power connectors from both the floppy and the hard drive.
3. Press the retaining clip on top of the drive tray and slide it backwards to remove it.



4. Align the new hard drive in the lower part of the tray (with the correct orientation) and secure it with the screws provided with the drive.



5. Replace the drive bay in the PC.
6. Attach all data and power connectors. Assuming you want to use the original hard drive to boot your PC from, attach the end connector (marked DRIVE 0) to this drive and the middle connector (marked DRIVE 1) to the new drive.
7. Replace the cover.
8. Verify the new configuration by checking the HP Summary Screen. To access the Summary Screen, press F8 when the *HP logo* appears during startup, then select the summary screen option.

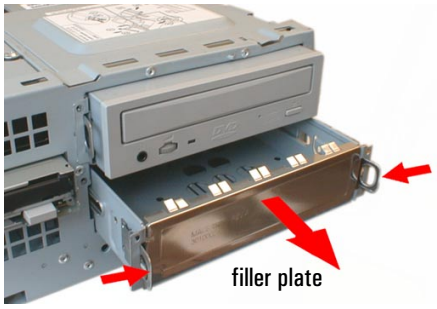
Note Ensure that you have installed all the required operating system and HP drivers on the newly installed drive. To reinstall operating system and HP drivers, use the Recovery CD-ROMs provided with the PC. In addition, you can find the most up-to-date versions of HP drivers on HP's Web site at: `www.hp.com/go/support`.

Installing optical drives

WARNING **To avoid electrical shock and harm to your eyes by laser, do not open the laser module. The laser module should be serviced by service personnel only. Do not attempt to make any adjustment to the laser unit. Refer to the label on the CD-ROM for power requirements and wavelength. This product is a class 1 laser product.**

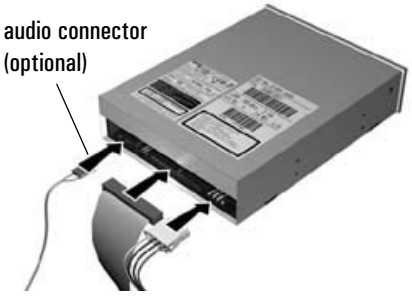
Desktop models

1. Switch off the PC and remove the PC's cover and front panel. Refer to page 8.
2. Press the two latches inwards and slide out the drive tray.



3. Remove the metal filler plate from the tray.
4. Place the new drive in the tray with the correct orientation and tighten the tray's four screws (two on each side).

5. Slide the drive tray back into the PC until it clicks into place.
   Fit the two screws to the front of the tray if you had to remove them earlier.
6. Attach all data and power connectors. If you are installing a CD-ROM, CD-RW or DVD drive, connect the audio cable too.



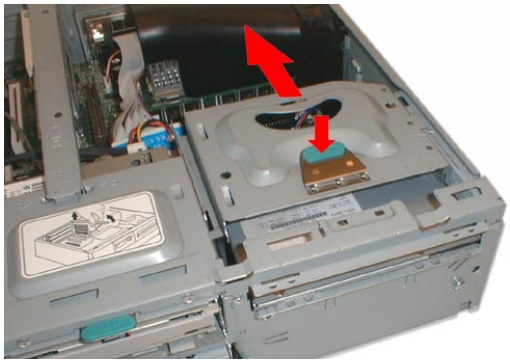
7. Replace the cover and front panel. Refer to page 10.

8 Verify the new configuration by checking the HP Summary screen. To access the HP Summary Screen, press **F8** when the HP logo appears during startup, then select the Summary option by pressing **Esc**.

Small form factor models

1 Switch off the PC and remove the PC's cover and front panel. Refer to page 8.

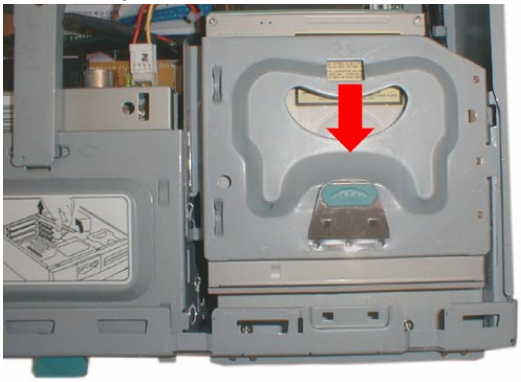
2 Remove the drive tray by pressing the latch and sliding it out.



3 Making sure it is the correct way round, insert the slim drive in the tray. It should click into place.

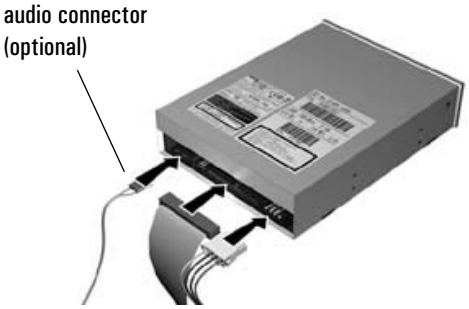
Using the arrow as a guide, insert the tray's pin into the drive, then lower the drive into position in the tray

4 Replace the drive tray.



Align the hinges on either side of the drive tray, lower it then slide it into position until it clicks into place

5 Attach the data and power connectors and audio cable.



6 Replace the cover and front panel. Refer to page 10.

7 Verify the new configuration by checking the HP Summary screen. To access the HP Summary Screen, press **F8** when the HP logo appears during startup, then select the Summary option by pressing **Esc**.

Configuring an IDE device after installation

After installing any device, you need to view the HP Summary Screen to verify that your PC has correctly identified the new configuration. To view the Summary screen, press **F8** during startup, then select **Summary** from the list of options.

If the configuration is not correct, run the *Setup* program to configure the device. To enter the *Setup* program, press **F8** during startup, then select **Setup** from the list of options.

IDE drives are automatically detected by the *Setup* program. However, a newly installed device may required that you install an appropriate device driver. Refer to your operating system documentation for details. You can obtain the latest drivers from HP's support web site.

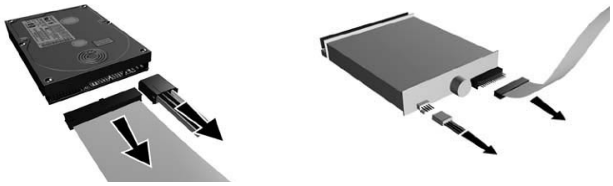
The IDE cables in your PC are cable select. You must, therefore, set the jumpers on any IDE devices you install to cable select. See the documentation for the device for more information.

Replacing the floppy drive

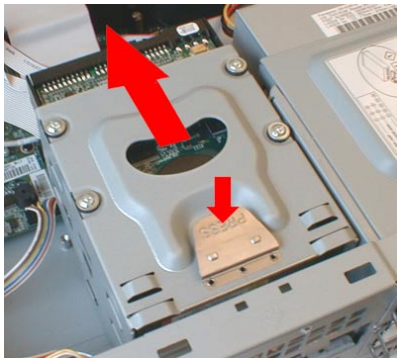
Desktop models

1 Switch off the PC and remove the PC's cover and front panel. Refer to page 8.

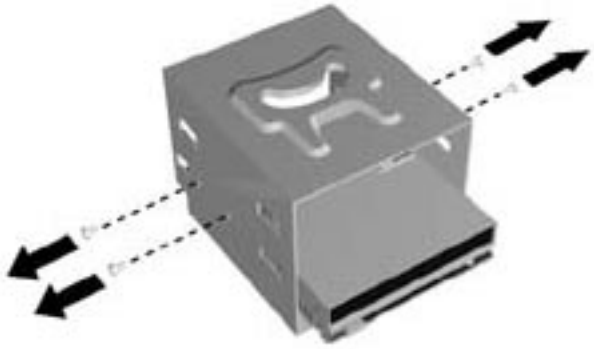
2 Remove data and power connectors from both the floppy and the hard drive.



3 Press the retaining clip on top of the drive tray and slide it backwards to remove it.



4 Undo the tray's screws and remove the old floppy drive.



5 Align the new floppy drive in the tray (with the correct orientation) and replace the screws.

6 Slide the drive tray back into the PC.

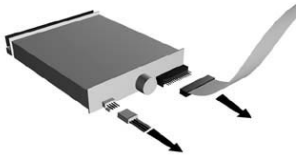
7 Attach the data and power connectors.

8 Replace the cover.

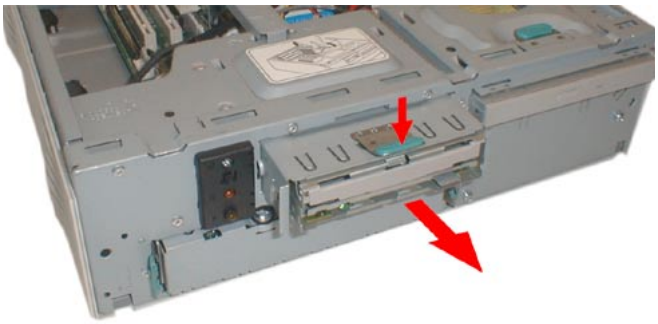
Small Form Factor models

1 Switch off the PC and remove the PC's cover and front panel. Refer to page 8.

2 Remove data and power connectors from the installed floppy drive.



3 Press the front tab and slide out the floppy drive tray.



4 Undo the three screws on the sides of the floppy drive tray and remove the old floppy drive.

5 Align the new floppy drive in the tray (with the correct orientation) and replace the screws.

6 Slide the drive tray back into the PC.

7 Attach the data and power connectors.

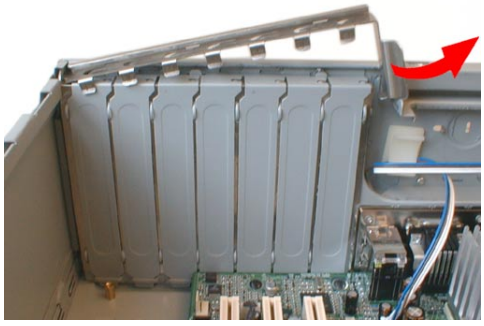
8 Replace the cover.

Installing an accessory card

Desktop models

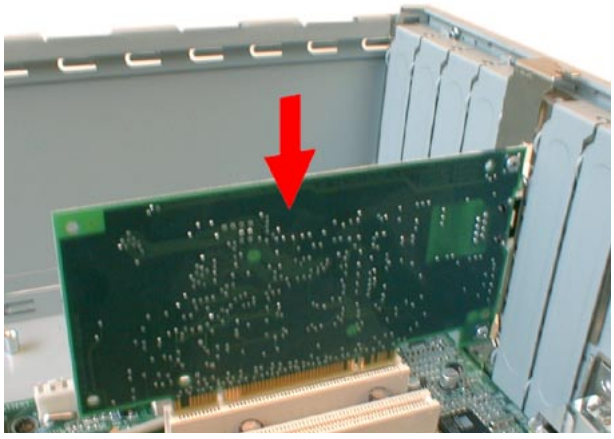
1 Switch off the PC and remove the PC's cover. Refer to page 8.

2 Remove the retaining bracket.



3 Remove the slot cover and store it in a safe place in case you need it again.

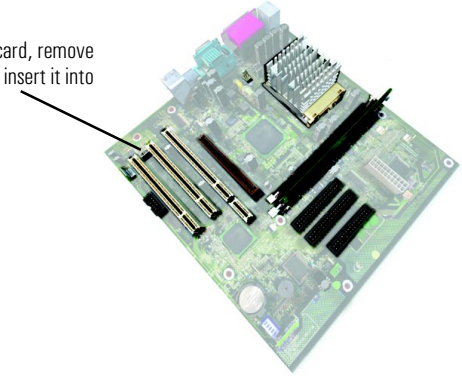
4 Aligning the card carefully, slide it into position and press it firmly into the slot.



5 Replace the retaining bracket.

6 The accessory card may need a special connection, such as from an optical drive if you are installing an add-on sound card.

Integrated Audio Connector
If you install an add-on sound card, remove the cable in this connector and insert it into the sound card's connector.

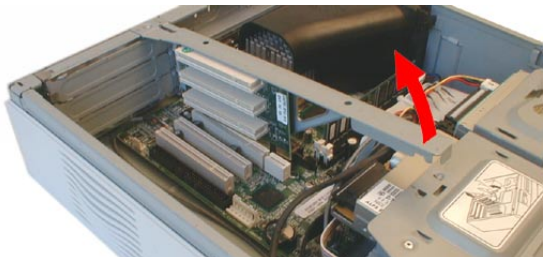


7 Replace the cover.

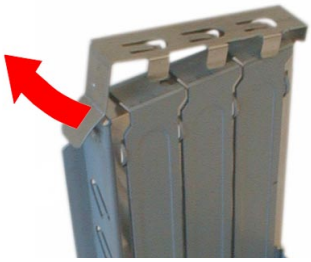
Small Form Factor models

1 Switch off the PC and remove the PC's cover. Refer to page 8.

2 Remove the accessory board bracket.

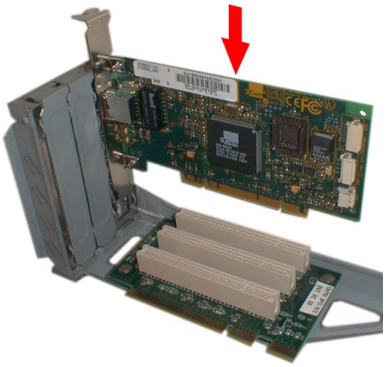


3 Remove the retaining clip.



4 Remove the slot cover and store it in a safe place in case you need it again.

5 Aligning the card carefully, slide it into position and press it firmly into the slot.

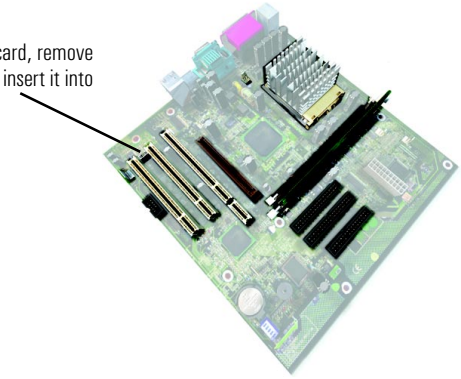


6 Replace the retaining clip.

7 Replace the accessory card bracket.

8 The accessory card may need a special connection, such as from an optical drive if you are installing an add-on sound card.

Integrated Audio Connector
If you install an add-on sound card, remove the cable in this connector and insert it into the sound card's connector.



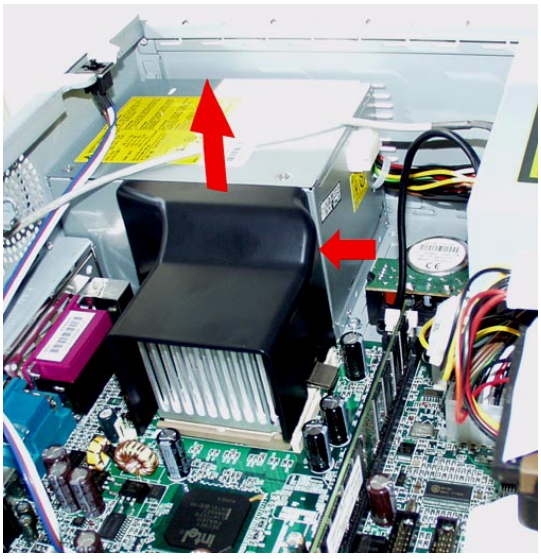
9 Replace the cover.

Replacing the processor

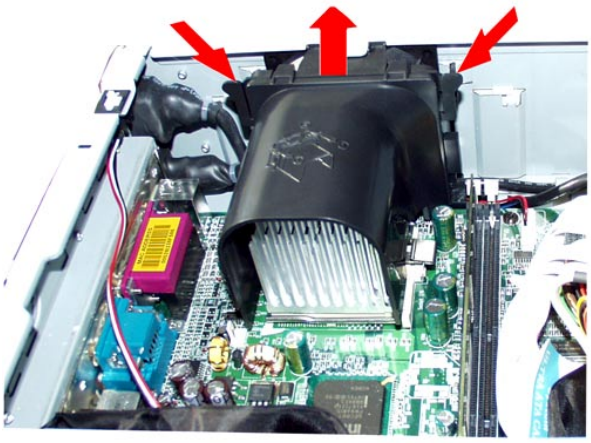
1 Switch off the PC and remove the PC's cover. Refer to page 8.

2 Remove the airflow guide (when fitted).
Your PC can be fitted with:
- an active heatsink (with a fan on the top), in which case no airflow guide is required or
- a passive heatsink (without a fan on top) and an airflow guide.

Desktop

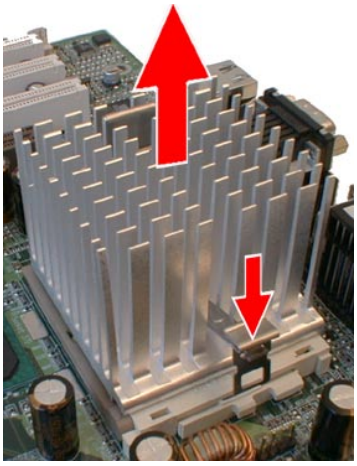


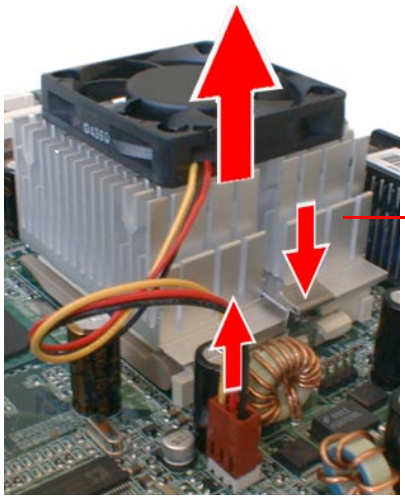
Small form factor



3 Remove the heatsink.

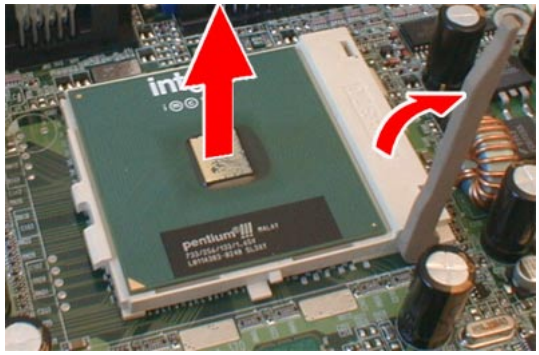
Passive heatsink



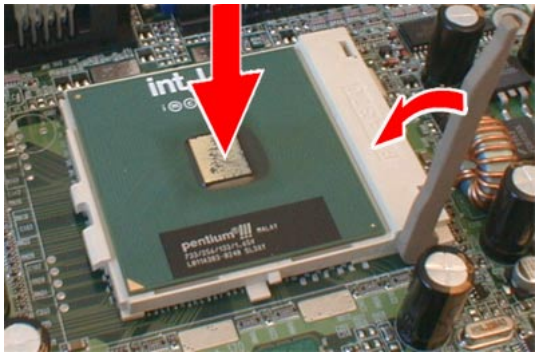


Active Heatsink
First remove the fan's power connector from the system board, then remove the heatsink.

4 Remove the old processor.



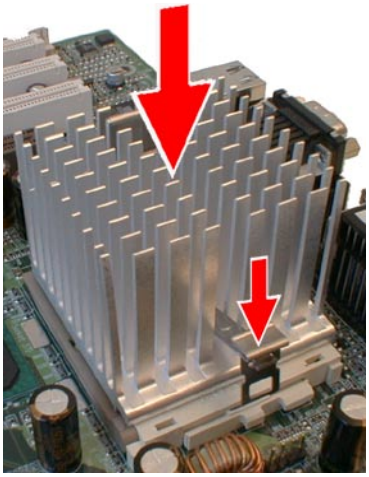
5 Install the new processor.



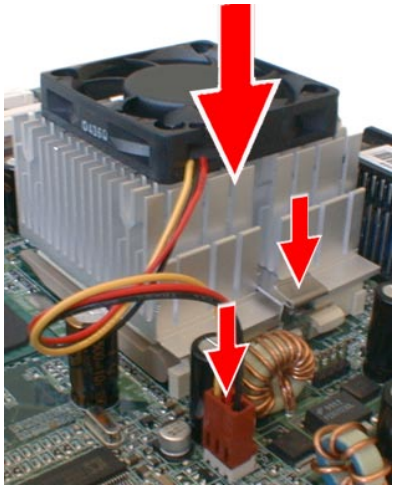
Insert the processor carefully. Ensure the orientation is correct - it can go in one way only.

6 Remove any traces of the old thermal interface material (sticker or polymer) from the underside of the heatsink. Affix the new thermal interface material (sticker or polymer, provided with the new processor) to the underside of the heatsink.

7 Install the heatsink, making sure you line it up correctly.



Passive heatsink



Heatsink with fan
After installing the heatsink, connect the fan's power connector to the system board.

CAUTION
Ensure you use the correct system board connector (marked CPU FAN). If necessary, refer to "Cables and connectors in your pc" on page 15.

8 Replace the airflow guide (if required), aligning the clips with the holes on the power supply. Insert the bottom clip in the hole first, then squeezing the airflow guide on both sides, insert the side clips.

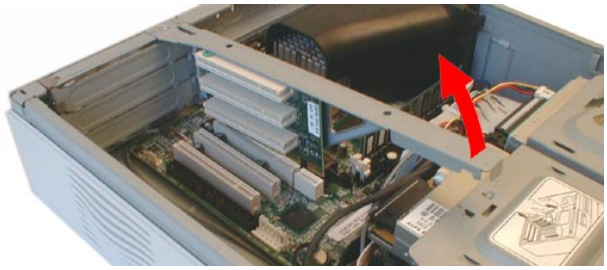
9 Replace the cover. Refer to page 10.

10 Ensure that the latest version of BIOS is installed on your PC. To learn which version of BIOS is currently installed on your PC, press **F8** during startup, then select **Summary** from the list of options. To get the latest BIOS version for your PC, connect to HP's support web site.

Replacing the system board

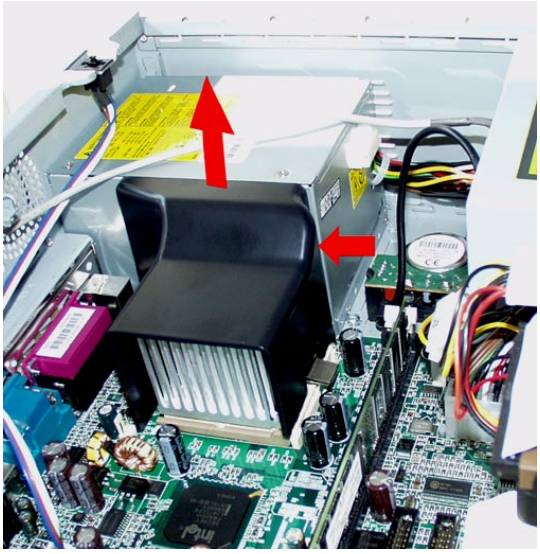
1 Switch off the PC and remove the PC's cover and front panel. Refer to page 8.

2 If you have a small form factor model, remove the accessory board bracket.

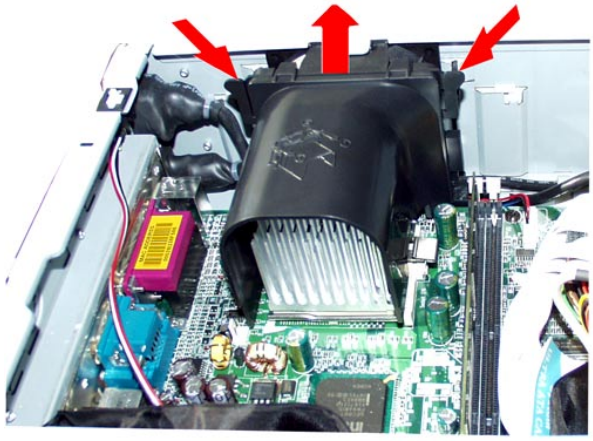


3 Remove the airflow guide (if one is fitted).

Desktop



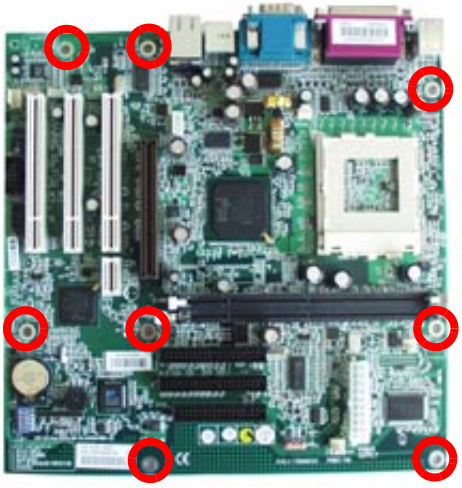
Small form factor



4 Remove the main memory (page 14) and processor (page 26) from the old system board.

5 Remove all data, power and other cables from the old system board.

6 Remove the 8 screws securing the system board.

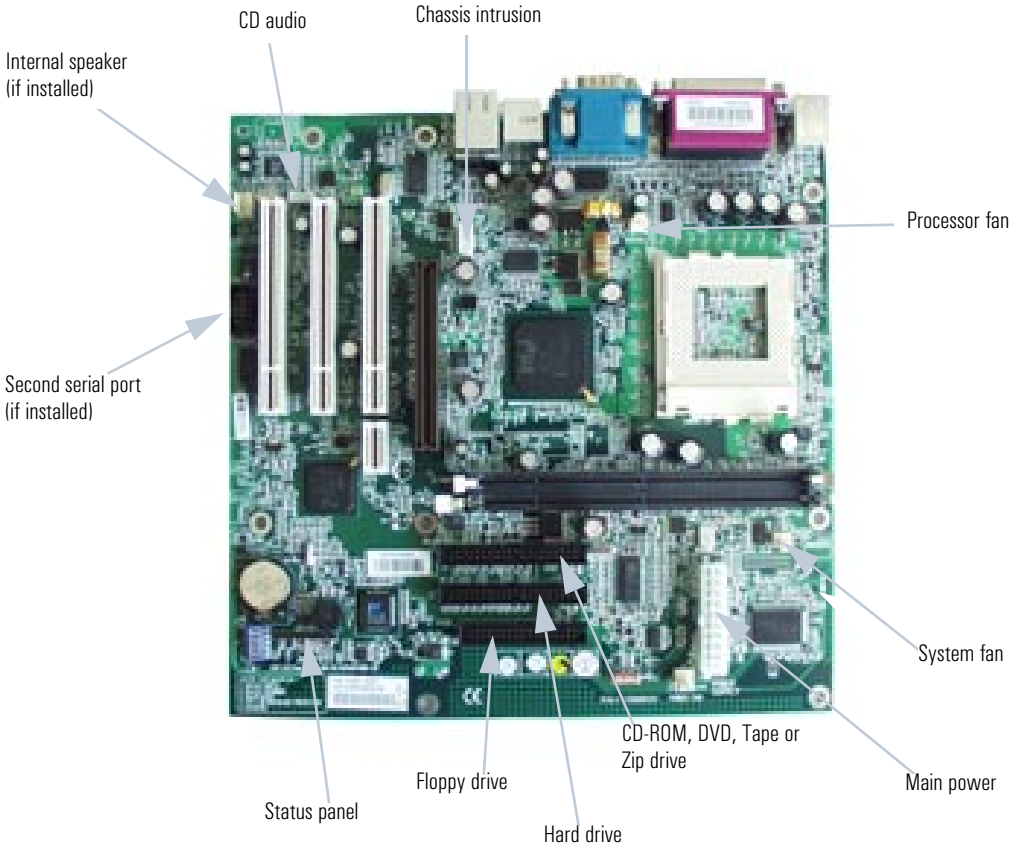


7 Remove the old system board by carefully disengaging the rear connectors then carefully lifting it out of the PC.

8 Insert the new system board, lining up the rear connectors carefully and fasten the screws to secure the board in place.

9 Replace the main memory (page 14) and processor (page 26).

10 Reconnect all cables to the new system board. The connectors are shown below.



11 Replace the airflow guide (if required).

12 If you have a small form factor model, replace the accessory board bracket.

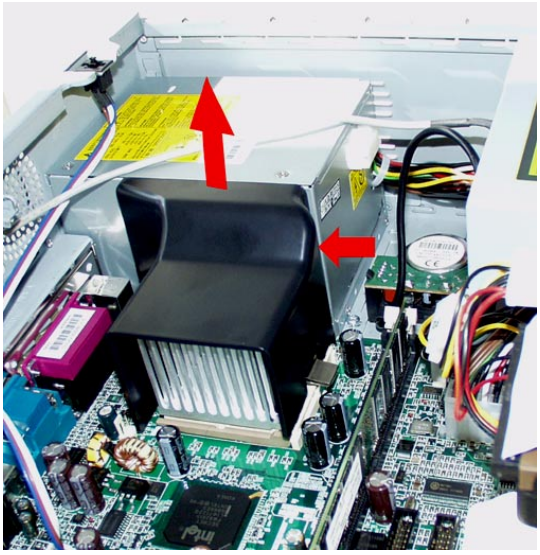
13 Replace the cover and front panel.

Replacing the power supply unit

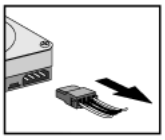
Desktop models

1 Switch off the PC and remove the computer's cover. Refer to page 8.

2 Remove the airflow guide (if fitted). Press firmly on both sides and lift out the airflow guide.

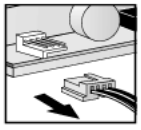


3 Remove all internal power supply connectors.

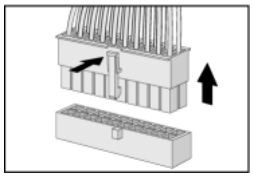


Hard drive(s)

DVD, CD-RW,
CD-ROM drive(s)

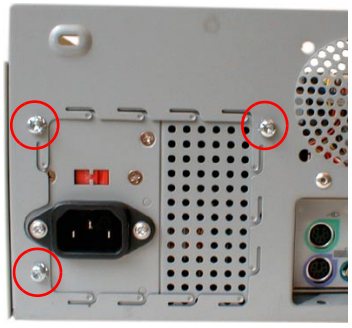


Floppy drive



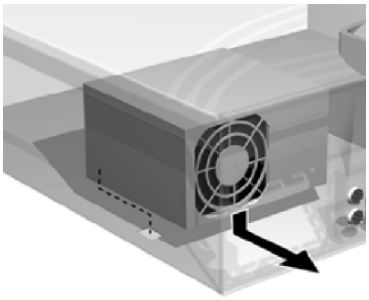
Main power
(located on system board near
memory modules)

4 Remove the four screws (three external, one internal) securing the power supply:



5 Slide the old power supply forward and remove it.

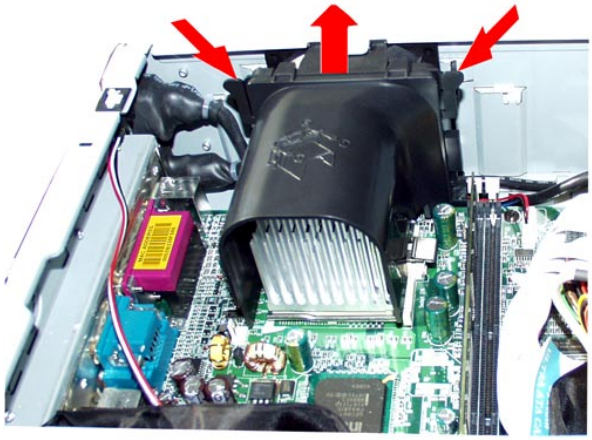
6 Insert the new power supply (lining up the metal catches).



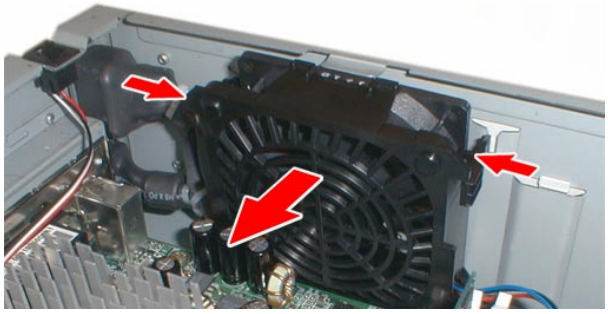
7 Replace the four screws to secure the power supply.
8 Reconnect *all* internal power supply connectors.
9 Replace the airflow guide.
10 Replace the cover. Refer to page 10.
11 Select the correct voltage setting for your country.

Small form factor models

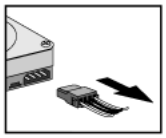
1 Switch off the PC and remove the computer's cover. Refer to page 8.
2 Remove the airflow guide (if fitted).



3 Remove the fan by pressing the two latches inward then lifting it free.

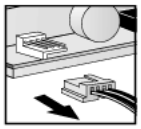


4 Remove all internal power supply connectors.

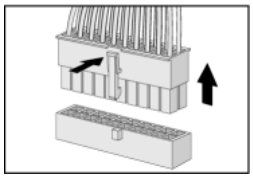


Hard drive(s)

DVD, CD-RW,
CD-ROM drive(s)

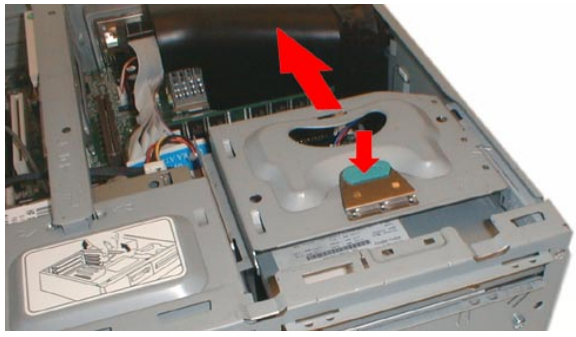


Floppy drive

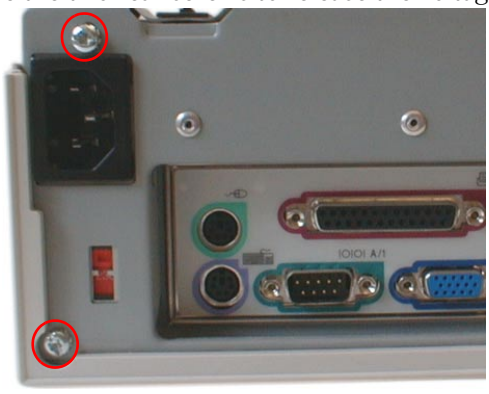


Main power
(located on system board near
memory modules)

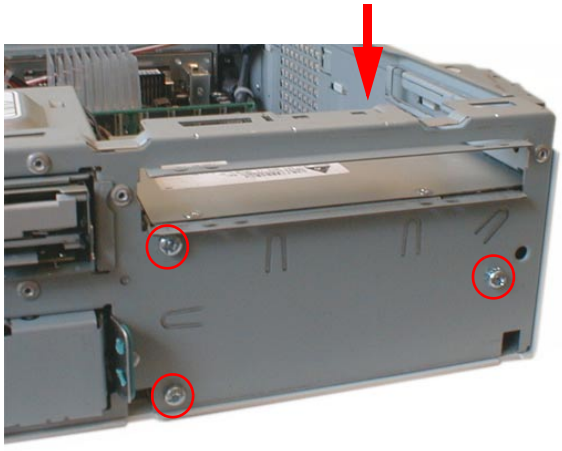
5 Remove the CD-ROM or DVD drive.



6 Remove the two rear screws to release the voltage switch and external power connector.

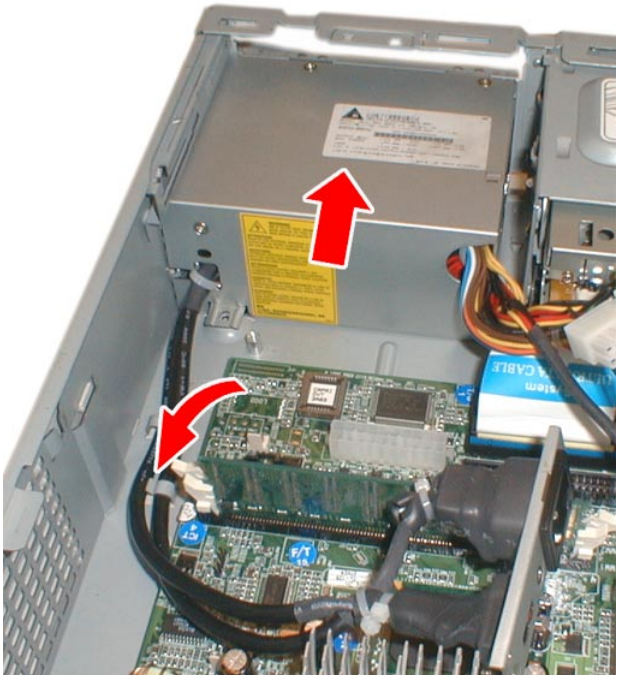


7 Remove the four screws (three external, one internal) securing the power supply.



8 Disengage the two black cables and remove the power supply.

9 Insert the new power supply and reroute the black cables.



10 Replace the four screws to secure the power supply.

11 Align the external power connector and voltage switch and replace the two rear screws.

12 Replace the CD-ROM (or DVD) drive, fan and airflow guide.

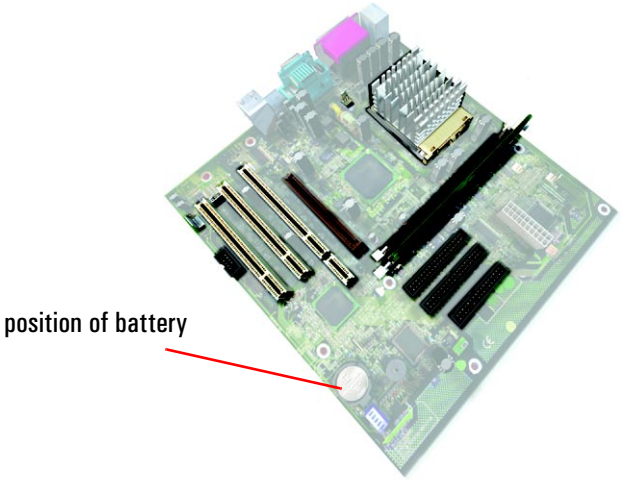
13 Reconnect *all* internal power supply connectors.

14 Replace the cover. Refer to page 10.

15 Select the correct voltage setting for your country.

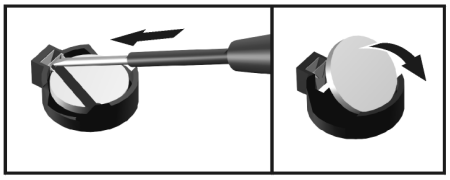
Replacing the battery

WARNING **There is a danger of explosion if the battery is incorrectly installed. For your safety, never attempt to recharge, disassemble or burn the old battery. Replace the battery only with the same or equivalent type recommended by the manufacturer. The battery in this PC is a lithium battery which does not contain heavy metals, nevertheless, in order to protect the environment, do not dispose of batteries in household waste. Please return used batteries to the shop from which you bought them, or to the dealer from which you purchased your PC, or to HP, so that they can either be recycled or disposed of in an environmentally sound way. Returned used batteries will be accepted free of charge.**



1 Switch off the PC and remove the PC's cover. Refer to page 8.

2 Remove the old battery by pressing the retaining clip with a flat-headed screwdriver and lifting the battery clear.



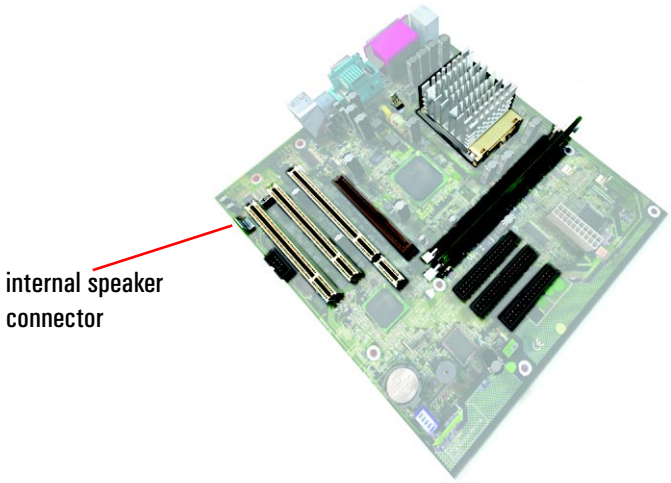
3 Place the new battery in the battery holder, with the "+" sign on top and ensure that it is properly seated.

4 Replace the PC's cover. Refer to page 10.

Replacing the internal speaker

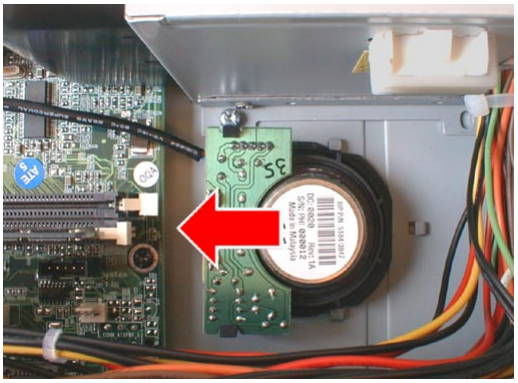
1 Switch off the PC and remove the PC's cover. Refer to page 8.

2 Disconnect the speaker cable from the system board



3 Remove the speaker unit by sliding it free of the retaining clips.

Desktop



Small form factor

4 Insert the new speaker.

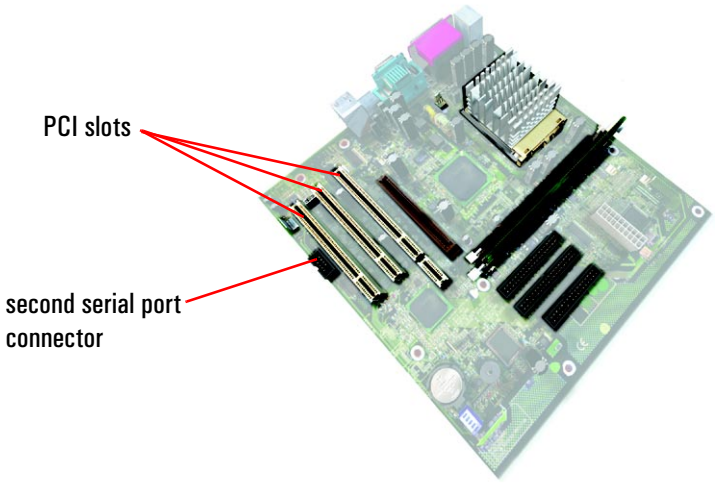
5 Connect the end of the speaker cable to the system board.

6 Replace the PC's cover. Refer to page 10.

Replacing the second serial port extension

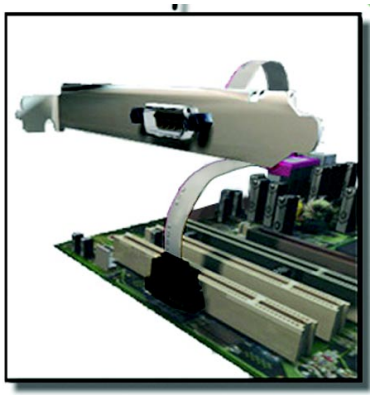
1 Switch off the PC and remove the PC's cover. Refer to page 8.

2 Choose an empty PCI slot.



3 Remove the accessory card retaining bracket.

4 Ensure that the serial port extension is properly inserted in the chosen slot, then connect the cable to the connector on the system board.



5 Replace the accessory card retaining bracket.

6 Replace the PC's cover. Refer to page 10.

Recovering Hard Drive Contents

To recover the full contents of your hard drive you need:

- the HP Image Library and Diagnostics CD-ROM
- the HP Image Creation and Recovery CD-ROM.

HP Image Creation & Recovery CD-ROM

This enables you to:

- Recover your original operating system
- Restore a complete software image for your HP PC
- Install an alternative Operating system (when available)
- Customize your hard disk partitions' size and type
- Access operating system master files (required for installing certain drivers).

HP Image Library & Diagnostics CD-ROM

(if provided)

This enables you to:

- Re-install original drivers and utilities
- Reinstall device drivers
- Run e-DiagTools hardware diagnostics.

Documentation for the Recovery Process

All of these processes are fully documented on the first *HP Image Creation and Recovery CD-ROM*. The documentation is displayed when you insert this CD-ROM.

When Should I Use the HP *Image Library and Diagnostics CD-ROM*?

- To run e-DiagTools if you cannot run diagnostics from the hard disk partition
- To reinstall a driver if you cannot access HP's support Web site.

When Should I Use the *HP Image Creation and Recovery CD*?

- To reinstall the PC's original operating system if you suspect an unstable software environment
- To deal with a virus infection. The recovery process will clean up the hard drive.

Changing the Hard Disk Drive

If the hard disk drive is corrupted and you can no longer use it, you should replace it with a new hard disk drive.

If the replacement hard disk drive is brand new, you will need to partition and format the drive. The *HP Image Creation & Recovery CD-ROM* contains utilities to guide you through this process.

Updating your PC's BIOS

Many problems with your PC can be solved by updating (flashing) the PC's BIOS.

Updating (flashing) your BIOS is a simple procedure that involves booting your PC from a floppy disk containing the new BIOS.

The latest BIOS for your PC along with instructions on updating can be downloaded from HP's Support Web site at: **www.hp.com/go/vectrasupport**.

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